

AMENDMENTS

In the Claims

Current Status of Claims

1. (canceled)

2. (currently amended) The process of claim 3839, wherein the extracting fluid is selected from the group consisting of Xe, NH₃, lower aromatics, nitrous oxide, water, CO, CO₂, H₂O, lower alcohols, lower alkanes, lower alkenes and mixtures or combinations thereof.

3. (currently amended) The process of claim 3839, wherein the extracting fluid comprises a major portion of CO₂, and a minor portion of a secondary fluid selected from the groups consisting of Xe, NH₃, lower aromatics, nitrous oxide, water, CO, H₂O, lower alcohols, lower alkanes, lower alkenes and mixtures or combinations thereof.

4. (currently amended) The process of claim 3839, wherein the extracting fluid is CO₂

5. (currently amended) The process of claim 3839, wherein the material-to-be-treated is a drilling fluid and the non-aqueous fluid product comprises a hydrocarbon product substantially free of contaminants, and the solids product is substantially free of hydrocarbons and other contaminants.

6. (currently amended) The process of claim 3839, wherein the material-to-be-treated is a used oil and the non-aqueous fluid product comprises a cleaned oil substantially free of water and water soluble contaminants and substantially free of solids.

7. (currently amended) The process of claim 6, wherein the cleaned oil has a lower sulfur content than the used oil prior to cleaning.

8. (currently amended) The process of claim 3839, wherein the material-to-be-treated is a hydrocarbon fuel and the non-aqueous fluid product comprises a cleaned fuel having a lower sulfur content than the hydrocarbon fuel prior to cleaning.

1 9.(currently amended) The process of claim ~~38~~39, wherein the material is a hydrocarbon
2 contaminated soil and the non-aqueous fluid product comprises a hydrocarbon product substantially
3 free of solids, water and water soluble contaminants, the solids product comprises a cleaned soil
4 substantially free of hydrocarbon and other contaminants, and the aqueous product is substantially
5 free of hydrocarbon.

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1 39.(new) A process for cleaning a material comprising the step of:

2 charging a quantity of a material-to-be-treated into an interior of an inner tube of a tubular
3 extraction vessel comprising: an upper portion including an outer tube, an middle tube, and an inner
4 tube; a semi-permeable membrane; and a lower portion,

5 charging a quantity of an extraction fluid to a plurality of interior sites of the tubular reactor
6 until the fluid is at or above its critical point,

7 contacting the material-to-be-treated with the extracting fluid under conditions of temperature
8 and pressure sufficient to maintain the fluid at, near or above its critical point to produce a treated
9 material;

10 concurrently, removing water and water soluble components via the semi-permeable
11 membrane into the lower portion of the tubular extraction vessel to produce an aqueous product,

12 forwarding the treated material and the extraction fluid into a first separation vessel
13 comprising an interior, a treated material inlet, a fluid outlet and a solids outlet having a venturi
14 valve,

15 removing the solids through the venturi valve to a solids storage container to produce a solids
16 product,

17 removing a fluid to a second separator having a fluid level sensor to produce a non-aqueous
18 fluid product,

19 separating the fluid into a used extraction fluid and a non-aqueous fluid product, and
20 transferring the non-aqueous fluid product to a fluid storage container.